Tester.java

```java
16      * @author USER
17      */
18     public class Tester {
19
20         /**
21          * @param args the command line arguments
22          */
23         public static void main(String[] args) {
24             Colony obj1 = new BeeColony(2000, "honey", " land");
25             System.out.println(obj1);
26             obj1.grow();
27             obj1.reproduce();
28             University obj2 = new FPTUniversity(100000, "FPT", "Cantho");
29             System.out.println(obj2);
30             obj2.enroll();
31             obj2.educate();
32
33             Role df = new BeeColony(3000, "wasp", "land");
34             System.out.println(df);
35             df.createWorker();
36
37             df = new FPTUniversity(100000, "FPT", "Hanoi");
38             System.out.println(df);
39             df.createWorker();
40         }
41
```

BeeColony.java

```java
1      /*
2       * To change this license header, choose License Headers in Project Properties.
3       * To change this template file, choose Tools | Templates
4       * and open the template in the editor.
5       */
6      package DTO;
7
8      /**
9       *
10       * @author USER
11       */
12     public class BeeColony extends Colony implements Role{
13
14         private String type;
15
16         public BeeColony() {
17         }
18
19         public BeeColony(int size, String place, String type) {
20             super(size, place);
21             this.type = type;
22         }
23
24         public String getType() {
25             return type;
```

```java
28      public void setType(String type) {
29          this.type = type;
30      }
31
32      public String getPlace() {
33          return place;
34      }
35
36      public void setPlace(String place) {
37          this.place = place;
38      }
39
40      public int getSize() {
41          return size;
42      }
43
44      public void setSize(int size) {
45          this.size = size;
46      }
47
48
49      @Override
50      public String toString() {
51          return "the colony's type is " + type + ", size is about " + super.size + ", and the place is
52      }
```

```java
37          this.place = place;
38      }
39
40      public int getSize() {
41          return size;
42      }
43
44      public void setSize(int size) {
45          this.size = size;
46      }
47
48
49      @Override
50      public String toString() {
51          return "the colony's type is " + type + ", size is about " + super.size + ", and the place is
52      }
53
54      @Override
55      public void createWorker() {
56          System.out.println("Worker bees perform all the work of the bees");
57      }
58
59  }
60
```

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Source | History

```java
/*
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 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package DTO;

/**
 *
 * @author USER
 */
public class Colony extends Organization{
    protected String place;


    public Colony() {

    }


    public Colony( int size,String place) {
        super(size);
        this.place = place;
    }


    public void grow(){
        System.out.println("an annual cycle of growth that begins in spring \n");
```

```java
    }


    public void grow(){
        System.out.println("an annual cycle of growth that begins in spring \n");
    }


    public void reproduce(){
        System.out.println("Colony can reproduce itself through a process \n");

    }


    @Override
    public void communicateByTool() {
        System.out.println("the colony communicate by sound");
    }


    @Override
    public String toString() {
        return "Worker bees perform all the work of the bees";
    }


}
```

```java
/*
 * To change this license header, choose License Headers in Project Properties.
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 * and open the template in the editor.
 */
package DTO;

/**
 *
 * @author USER
 */
public class FPTUniversity extends University implements Role {

    private String address;

    public FPTUniversity() {
    }

    public FPTUniversity(int size, String name, String address) {
        super(size, name);
        this.address = address;
    }

    public String getAddress() {
        return address;
    }
```

```java
    }

    public String getAddress() {
        return address;
    }

    public void setAddress(String address) {
        this.address = address;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public int getSize() {
        return size;
    }

    public void setSize(int size) {
        this.size = size;
    }
```

FPTUniversity.java

```java
37            this.name = name;
38        }
39
40        public int getSize() {
41            return size;
42        }
43
44        public void setSize(int size) {
45            this.size = size;
46        }
47
48        @Override
49        public String toString() {
50            return "FPTU has four campuses Hanoi, HCM, DaNang, CanTho, QuyNhon \n" ;
51
52        }
53
54        @Override
55        public void createWorker() {
56            System.out.println("providing human resources");
57        }
58
59
60
61    }
62
```

Organization.java

```java
1  /*
2   * To change this license header, choose License Headers in Project Properties.
3   * To change this template file, choose Tools | Templates
4   * and open the template in the editor.
5   */
6  package DTO;
7
8  /**
9   *
10  * @author USER
11  */
12 public abstract class Organization {
13     protected int size;
14
15     public Organization() {
16
17     }
18     public Organization(int size) {
19         this.size = size;
20     }
21
22     public int getSize() {
23         return size;
24     }
25
26     public void setSize(int size) {
```

```java
16
17        }
18        public Organization(int size) {
19            this.size = size;
20        }
21
22        public int getSize() {
23            return size;
24        }
25
26        public void setSize(int size) {
27            this.size = size;
28        }
29
30        public abstract void communicateByTool();
31
32        @Override
33        public String toString() {
34            return "the organization's size is "+ size ;
35        }
36
37    }
38
```

```java
1    /*
2     * To change this license header, choose License Headers in Project Properties.
3     * To change this template file, choose Tools | Templates
4     * and open the template in the editor.
5     */
6    package DTO;
7
8    /**
9     *
10    * @author USER
11    */
12   public interface Role {
13       public void createWorker();
14   }
15
```

```java
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package DTO;

/**
 *
 * @author USER
 */
public class University extends Organization {
    protected String name;

    public University() {
    }
    public University(int size,String name) {
        super(size);
        this.name = name;
    }
    public void enroll(){
        System.out.println("The registration for enrollment is only valid when the University has received
    }
    public void educate(){
        System.out.println("provide education at university standard");
```

What is stored in the static heap, stack, dynamic heap?

Heap: String type, private String address;

Stack:

Dynamic heap: int size; String place, protected String name;

Why the Organization class is abstract? describes the communication way between members

 Why must the Colony/University class implement the communicateBytool() method? Connect each others

You explain the polymorphism feature in your code.

Describe the difference between an interface and an abstract class

nterface can have only abstract methods. An abstract class can have abstract and non-abstract methods.